

NEW AMISEGINE WASPS FROM SOUTHEAST ASIA
(HYMENOPTERA: CHRYSIDIDAE)

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Abstract.—Six new species of Amiseginae (Chrysididae) are described from southeast Asia, including *Atoposega decorata* (New Caledonia), *Bupon thailandicus* (Thailand), *Bupon bicornutus* (Vietnam), *Magdaliium orchidense* (Taiwan); *Magdaliium lucidum* (Malaya), and *Perissosega flavipes* (Thailand).

Key Words: Amiseginae, Chrysididae, *Atoposega*, *Bupon*, *Magdaliium*, *Perissosega*

Additional collecting with flight intercept, malaise, and pan traps in southeast Asia has demonstrated how little we know about the fauna of amisegine chrysidids in this region. Recently studied material that was collected in this fashion, and deposited in the Canadian National Insect Collection and Bishop Museum, clearly indicates how our knowledge of these genera is still in a primitive state.

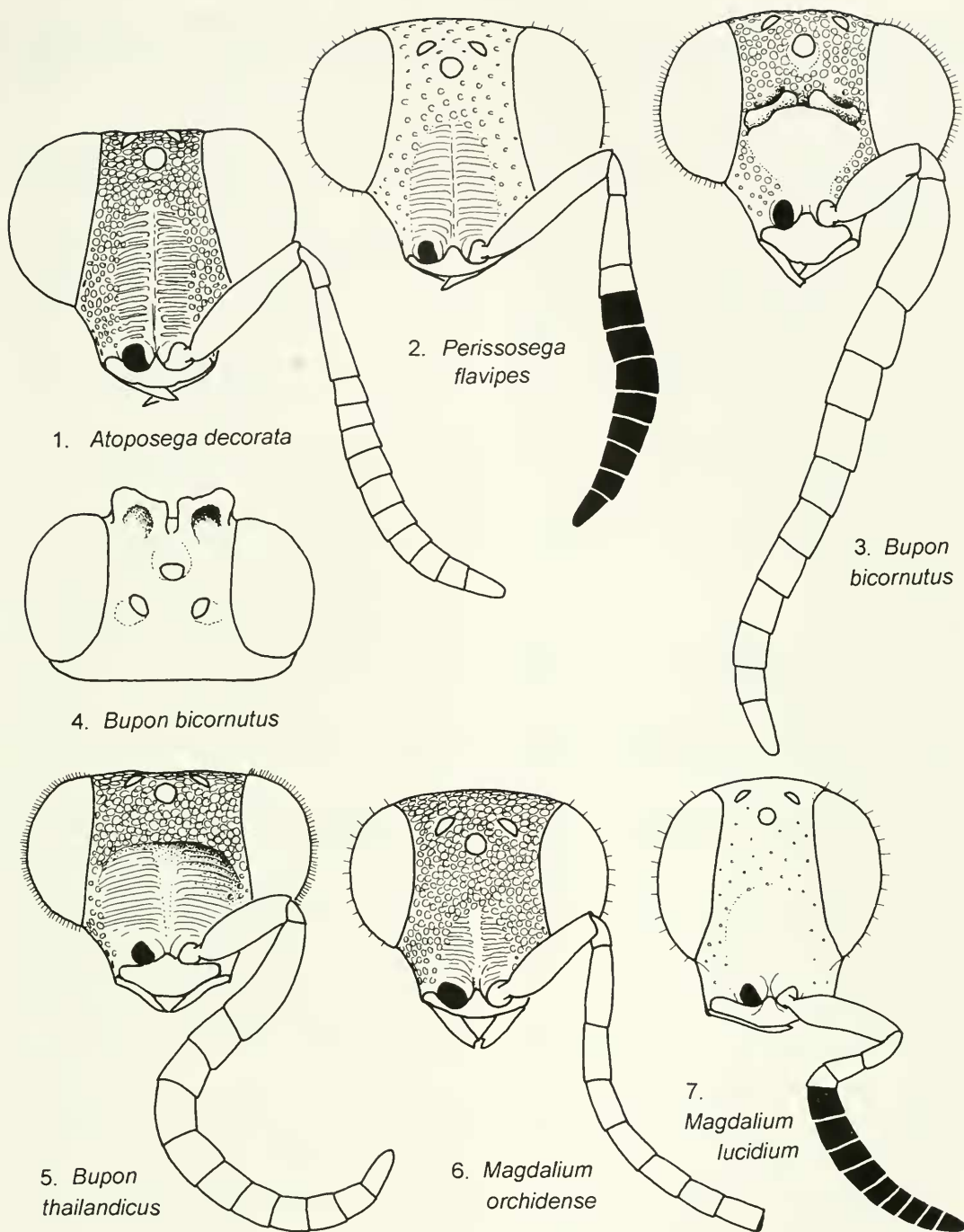
Generic distributions are clearly more widespread than recorded in Kimsey and Bohart (1991). *Bupon* was previously known from a single Malaysian species. The new species described below are from Thailand and Vietnam. *Magdaliium* is another genus known from one Malaysian species, and has now been collected from Orchid Island, Taiwan, along with a second species from Malaya. *Baeosega*, known from Sri Lanka, is recorded below from southern Japan. *Perissosega*, previously described from Sri Lanka, is recorded below from Thailand. Finally, an additional, spectacularly blue-colored species of *Atoposega* is described below from New Caledonia. The other three spe-

cies in this genus are from Malaysia and the Philippines.

Specimens described below were obtained from and/or deposited in the following collections. Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, J. M. Carpenter, S. R. Shaw, (CAMBRIDGE); Canadian National Insect Collection, Ottawa, Ontario, L. Masner (OTTAWA); Bohart Museum of Entomology, University of California, Davis, S. L. Heydon (DAVIS); Bernice P. Bishop Museum, Honolulu, Hawaii, G. Nishida (HONOLULU), and U. S. National Museum, Washington, D.C. (K. V. Krombein). Repositories given below are indicated by the city name of the collection in capital letters enclosed in parentheses as above.

Atoposega decorata Kimsey, NEW SPECIES
Fig. 1

Description.—*Female (holotype):* Body length 5 mm. Face (Fig. 1): scapal basin clearly delimited and evenly cross-ridged, malar space 2.8 midocellus diameters long; head slightly wider than long; midocellus



Figs. 1-7. 1-3, 5-7, Front view of face. 4, Dorsal view of male head.

1.5 midocellus diameters from ocular margin; subantennal distance 2.8 midocellus diameters long; flagellomere I length $2.9 \times$ breadth; flagellomere II $0.7 \times$ as long as broad; pronotum slightly shorter than median length of scutum; vertex and pronotum with punctures sunken between irregular, polished, longitudinal welts, pronotum and scutum with punctures sunken between coarse longitudinal ridges; pronotal posterolateral lobe polished and nearly impunctate; mesopleuron with large nearly contiguous punctures, scrobe not apparent; scutellum with dense, deep, contiguous punctures; metanotal length $0.8 \times$ that of scutellum; forewing densely setose except for medial band traversing wing from stigma to posterior margin, wing darkly and stained and with dark setae, except pale medially and around apex extending in along stained remnant of Rs, including setae at base; hindfemur with minute punctures; propodeal angle digitate and pale apically; terga highly polished with few small widely scattered punctures, without striae or "scratches" laterally. Head and thorax generally metallic blue, scutum, metanotum and propodeum more purple, scutellum greener; legs metallic blue on coxae, femora medially and mid- and hindtibiae; forefemur entirely blue except apex pale yellow, foretibia pale yellow with blue tints; tarsi brown; remainder pale yellow to cream-colored; tergum I brown with blue tints, posterolateral corners pale yellow to cream-colored; remainder of abdomen brown with blue tints.

Male. Unknown.

Type material.—Holotype, female, NEW CALEDONIA: Ciu, near Mt. Canala, 300 m, E. O. Wilson (CAMBRIDGE).

Etymology.—The name refers to the decorative coloration of this species.

Discussion.—This is the most brilliantly colored species of *Atoposega*. The bright blues and purples will readily distinguish *decorata* its congeners, *simulans* Kimsey, *rieki* (Krombein) and *lineata* (Krombein).

It has the smooth forefemur, terga without fine "scratches", patterned wings and large size of *simulans* and *lineata*, and metallic coloration more typical of *rieki*.

***Bupon bicornutus* Kimsey, NEW SPECIES**

Figs. 3, 4

Description.—*Male (holotype)*: Body length 4 mm. Face (Fig. 3); scapal basin highly polished, and deeply concave below strongly projecting bilobate brow; brow produced into two large flattened, and dorsally concave projections; vertex convex; head and thorax covered with coarse contiguous punctures; eye encircled by obsolescent carina, clypeal apex broadly rounded; subantennal distance 1.5 midocellus diameters long; malar space 3 midocellus diameters, with vertical sulcus; hindocellus 1 diameter from ocular margin; midocellus 2.2 midocellus diameters from ocular margin; flagellomere I $2.6 \times$ as long as broad and arched; flagellomere II $1.3 \times$ as long as broad; occipital carina complete; pronotum as long as scutum, with obscure oblong depression posteromedially and small pit on lateral lobe; mesopleuron without scrobal sulcus, propodeal posterior surface coarsely and densely rugose, lateral angle short and blunt; terga relatively sharp-edged laterally, with dense, small punctures, 0.5–1 puncture diameter apart or less. Body black; with bluish highlights on terga; antennae dark brown; legs dark brown with pale joints, and fore- and midtarsi pale; wings brown tinted.

Female unknown.

Paratypes differ in length from the type varying from 4–5 mm.

Type material.—Holotype, male, VIETNAM: Fyan, 900–1000 m, 11 July–9 Aug. 1961, N. R. Spencer (HONOLULU). Paratypes: 1 male, Mt. Lang Bian, 1500–2000 m, 19 May–8 June 1961, N. R. Spencer (HONOLULU), 1 male, 17 km s Dilinh, 1300 m, 6–13 Oct. 1960, C. M. Yoshimoto (DAVIS).

Etymology.—The species name refers to the strongly projecting bilobate frontal carina.

Discussion.—The most distinctive features of this species are the exaggerated frontal carina, which is produced and modified into two excavated, subtruncate lobes, and the strongly concave and smooth scapal basin. Otherwise *bicornutus* resembles *thailandicus* in most respects, with the same general coloration and density of punctuation.

***Bupon thailandicus* Kimsey, NEW SPECIES**
Fig. 5

Description.—*Male (holotype)*: Body length 4 mm. Face (Fig. 5); scapal basin deeply concave and sunken below strongly projecting carinate brow, with coarse cross-ridges; vertex convex; head and thorax covered with coarse contiguous punctures; eye encircled by obsolescent carina, clypeal apex broadly rounded; subantennal distance 1.2 midocellus diameters long; malar space 2.5 midocellus diameters long, with vertical sulcus; hindocellus 0.8 diameter from ocular margin; midocellus 2.5 midocellus diameters from ocular margin; flagellomere I $3\times$ as long as broad and arched; flagellomere II $1.3\times$ as long as broad; occipital carina complete; pronotum $0.5\times$ combined lengths of scutum, scutellum and metanotum, with oblong pit posteromedially and small pit on lateral lobe; mesopleuron without scrobal sulcus, propodeal posterior surface coarsely and densely rugose, lateral angle short and blunt; terga relatively sharp-edged laterally, with dense, small punctures, 0.5 puncture diameter apart or less. Body black with bluish tints on abdominal dorsum; antennae dark brown; legs dark brown with pale joints, and fore- and midtarsi pale; wings brown tinted.

Female unknown.

Paratypes differ somewhat from the type in size, ranging from 3–4 mm.

Type material.—Holotype, male, THAI-

LAND: 70 km sw Chiang Mai, 800 m, Doi Inthanon National Park, Vachiratharu Falls, *Cerocarpus* forest, April–May 1990, B. V. Brown (OTTAWA). Paratypes: 8 males, same data as type (HONOLULU, DAVIS, WASHINGTON); one male: THAILAND: Korat, Pakchong, Musi, Vil. 9, Khlong Yai, 25 May 1969, G. R. Balmer (HONOLULU).

Etymology.—This species named after its country of collection, Thailand.

Discussion.—The two other species described in this genus are *pashoanus* Kimsey and *bicornutus*. *Bupon thailandicus* can be distinguished from *pashoanus* by the dark legs (yellow in *pashoanus*), convex vertex, and arched flagellomere I, and from *bicornutus* by the simple frontal carina.

***Magdaliium lucidum* Kimsey, NEW SPECIES**
Fig. 7

Description.—*Female (holotype)*: Body length 4 mm. Face (Fig. 7); scapal basin highly polished and impunctate; malar space 3 midocellus diameters long, with vertical sulcus; subantennal distance slightly longer than 1 midocellus diameter; flagellomere I $1.6\times$ as long as broad; flagellomeres II–III $0.9\times$ as long as broad; occipital carina present dorsally; midocellus 2 diameters from ocular margin; vertex and frons with small, widely separated punctures, 2–5 puncture diameters apart; hindocellus 0.8 diameter from ocular margin; pronotum only slightly longer than scutum, with thin sulcus extending anteriorly along medial line and pit on lateral lobe; mesopleuron with subalar fossa, short oblique mesopleural carina and scrobal sulcus, scrobal sulcus parallel-sided and about $6\times$ as wide as long; thoracic punctures 0.5–1.0 puncture diameter apart dorsally and 1–2 puncture diameters laterally; notauli deep and straight; metanotum as long as scutellum; propodeum with short blunt posterolateral corner; tergal punctures 0.5–1.0 puncture diameter apart, except for impunctate medial line. Head, thorax and

abdomen shiny black, except pale oblique medial line traversing terga; antenna yellow, except dorsum of apical nine flagellomeres dark brown; legs entirely yellow, except hindfemur brown medially on inner and outer surfaces; wing membrane brown tinted. Body with short erect pale setae.

Male. Unknown.

Type material.—Holotype, female, MALAYA: Sentine Tea Estate, vii–viii 1985, W. Budenberg (OTTAWA).

Etymology.—The species name refers to the highly polished, sparsely punctate, “shining” integument.

Discussion.—This species differs from *cuneifacialis* and *orchidense* below by the shorter pronotum, entirely pale legs, metallic dorsal tints and flagellum with erect bristling red setae. *Magdaliium lucidum* is a slender species with the pronotum considerably longer than the scutum.

***Magdaliium orchidense* Kimsey,**

NEW SPECIES

Fig. 6

Description.—*Male (holotype)*: Body length 4.5 mm. Face (Fig. 6); scapal basin with polished medial stripe and coarse cross-ridges laterally, punctures 0.5–1 puncture diameter apart; malar space 3 midocellus diameters long, with vertical sulcus; subantennal distance 0.3 midocellus diameter; flagellomere I 2.5× as long as broad; flagellomere II length 1.8× breadth; occipital carina present dorsally; midocellus 2.3 midocellus diameters from ocular margin; vertex with impunctate medial welt 1.5 midocellus diameters long; hindocellus 1 diameter from ocular margin; pronotum only slightly longer than scutum, with thin sulcus extending anteriorly along medial line, with pit on lateral lobe; mesopleuron with subalar fossa, short oblique mesopleural carina and scrobal sulcus long, narrow and parallel-sided; notal punctures nearly contiguous to 1 puncture diameter apart, larger and further apart on head and pronotum than scutum; notauli deep and straight posteriorly;

metanotum as long as scutellum; propodeum with short blunt posterolateral corner; tergum II punctures sparse and 2–4 puncture diameters apart, except for impunctate medial stripe; terga III–V with posterior band of punctures. Head, thorax and abdomen black with greenish bronze tints on vertex and thoracic nota; scape and pedicel red; flagellum black; legs pale brown. Body with erect brown setae.

Female: Same as male, except malar space 4 midocellus diameters long; flagellomere I 1.9× as long as broad, flagellomere II 0.8× as long as broad; scape and pedicel red, flagellomere I pale greyish; rest of flagellum black; legs reddish brown; wings brown stained, and propodeal corners prominent and acute.

Type material.—Holotype, male, TAIWAN: Orchid Is. (Batel Tobago), 5–9 July 1991, C. K. Starr (OTTAWA). Paratypes: 1 female, 5 males, same data as type (OTTAWA, DAVIS).

Etymology.—This species is named after the site of collection, Orchid Island.

Discussion.—This species has a shorter pronotum than other species where the pronotum is considerably longer than the scutum, entirely pale legs, metallic dorsal tints and flagellum with erect bristling red setae, which will immediately distinguish it from *cuneifacialis* and *lucidum*. These are much more slender species with the pronotum considerably longer than the scutum.

***Perissosega flavipes* Kimsey, NEW SPECIES**

Fig. 2

Description.—*Female (holotype)*: Body length 4.5 mm. Face (Fig. 2); scapal basin with coarse cross-ridges laterally, punctures 1–2 puncture diameters apart; malar space 3.5 midocellus diameter long, with vertical sulcus; subantennal distance 0.5 midocellus diameter; flagellomere I 2.4× as long as broad; flagellomere II length 0.7× breadth; occipital carina present dorsally; midocellus 2 midocellus diameters from ocular margin; hindocellus 1 diameter from ocular margin;

pronotum only slightly longer than scutum, with thin sulcus extending anteriorly along medial line, with pit on lateral lobe; mesopleuron with subalar fossa, omaulus present; scrobal sulcus long, narrow and parallel-sided, about $7\times$ as long as wide; punctures on vertex and notum 0.5–1 puncture diameter apart; notauli deep and straight posteriorly; metanotum three-fourths as long as scutellum; propodeum with long slender posterolateral spines; tergum II punctures small and 0.5–1.5 puncture diameters apart, except for impunctate medial stripe; terga III–V with posterior impunctate. Head, thorax and abdomen black; coxae, except basally, and rest of legs bright yellow; scapal apex yellow, rest of scape brown; pedicel and flagellomere I yellow, remaining flagellomeres dark brown; tegula and basal wing veins yellow, apical wing veins dark brown; wing membrane brown tinted.

Type material.—Holotype, male, THAILAND, 180 km ne Bangkok, Khao Ysi Natl. Park, 780 m, 11–18 April 1990, malaise trap, B. V. Brown (OTTAWA).

Etymology.—The name *flavipes*, refers to the bright yellow legs.

Discussion.—This is the second species placed in *Perissosega*. It differs from *venablei* Krombein in a number of major features, including the presence of a scrobal sulcus and omaulus, larger size (4.5 mm versus 3 mm), and the wings are evenly brown tinted instead of maculate. In addition, the legs are bright yellow instead of black or brown as in *venablei*.

LITERATURE CITED

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